

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004284**Date Inspected:** 22-Oct-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2200**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Pan Han**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Deviation and Jacking Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector observed the scheduled Partial Joint Penetration (PJP) groove welding of the structural steel grillage to the casting, QC inspection and the verification of the Alternating Current (AC) and the Direct Current (DC) welding parameters on the structural steel plate components for the West Deviation Saddle identified as W2E1. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel Kobayashi Kouzou ID 08-5053, Watanabe Toshiyuki ID 08-5153 and Nakasato Kei ID 91-2247.

Later in the shift the QA inspector observed JSW welding personnel Yamashita Masao ID 73-4195, Takatoshi Inowe ID 08-5163 and Watanabe Satoru ID 08-5159 performing the welding on the structural steel grillage to the casting.

The PJP groove welding was performed on the structural steel rib to casting rib connections identified as E1Y-8U, E1Y-13U, E1Y-14U, E1Y-15U and E1Y-16U.

The Shielded Metal Arc Welding (SMAW) and the gas shielded Flux Cored Arc Welding (FCAW-G) processes were utilized as per the Welding Procedure Specification (WPS) SJ-3011-7 which was also used by the QC inspector's as a reference during verification of the welding parameters. The welding was also performed utilizing the Distortion Control Plan, identified as Document Number SJ-3109 Revision 4. The welding was performed in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal and the vertical

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(3G) position with the work in the vertical plane with the weld axis vertical.

The consumable utilized by the welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as Hoballoy 9018-M which appeared to comply with the AWS Specification A5.5 and the AWS Classification E9018-M-H4R. The size of the electrodes utilized was 4.0 and 4.8 mm in diameter.

The consumable utilized for the FCAW-G process also appeared to be a Hobart Brothers Product and the trade name was identified as TM 95K2 which appeared to comply with the AWS Specification A5.29 and the AWS Classification E90T5-K2C H4. The size of the electrode was 1.6 mm in diameter.

The Quality Control (QC) inspection was performed by Intertek Testing Services (ITS) personnel Pan Han who performed the verification the preheat temperatures, welding parameters and the in process weld inspection during this shift.

Later in the shift this QA inspector observed, at random intervals, the QC inspector's performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the surface temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Pan Han appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

See Weld Joints in Progress Inspected on page 3 of this report in regards to QA observation of the welding parameters recorded during this shift on this date.

The following digital photographs illustrates the observations of the activities performed on this date.



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Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	E1Y-8U	SJ-3011-7	Pan Han	153 AC	22 AC	90mm/m	180 Degrees C.	Kei & Inowe
2	E1Y-13U	SJ-3011-7	Pan Han	250 AC	24 AC	155mm/m	180 Degrees C.	K. Kouzou
3	E1Y-14U	SJ-3011-7	Pan Han	240 DC	36 DC	266mm/m	200 Degrees C.	Masao
4	E1Y-15U	SJ-3011-7	Pan Han	163 AC	22 AC	87mm/m	170 Degrees C.	Sotaru
5	E1Y-16U	SJ-3011-7	Pan Han	333 DC	35 DC	260mm/m	180 Degrees C.	Toshiyuki

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Lanz,Joe

QA Reviewer